REMARKS

Claims 4-13, 16-23, and 28-30 are currently pending in the Application. The Examiner stated that the Declaration submitted in the Response filed September 29, 2003 was sufficient to overcome the rejections of Claims 1-28 based upon Stewart. The Examiner, citing Avenel as providing new grounds for rejection, rejected Claims 4-13, 16-23, and 28-30 under 35 U.S.C. § 103(a) as being unpatentable over Stewart in view of Avenel. Such rejections are noted.

Applicants respectfully requests that the Examiner withdraw his rejections for several reasons: first, the Examiner has stated that the Applicants have overcome all previous rejections, second, the new grounds of rejection do not apply to all claims, and third, the Examiner has not made a *prima facie* case of obviousness in his new grounds of rejection.

Procedural Status

Paper Number 13 is a Final Office Action mailed on July 27, 2003. In that Final Office Action, the Examiner rejected Claims 1-23 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Stewart. Applicants timely filed a Response and a 37 C.F.R. § 1.132 Declaration of James Rochelle, an expert in the field of proximity monitoring and wireless containment systems.

In response to Applicants Response to the Final Office Action, the Examiner issued a Non-Final Office Action, Paper Number 17. In the Non-Final Office Action, the Examiner states that the "declaration under 37 CFR 1.132 filed 29 September 2003 is sufficient to overcome the rejection of claims 1-28 based upon Stewart et al. The arguments in the remarks is persuasive and, therefore, the finality of the previous Office action is withdrawn. Newly discovered reference to Avenel et al. (6407677 B1) is cited in this Office action." Paper No. 17, para. 1.

Obviousness Under 35 U.S.C. § 103

The Examiner rejected Claims 4-13, 16-23, and 28-30 under 35 U.S.C. § 103(a) as being unpatentable over Patent Number 6,392,547, issued to Stewart, in view of Patent Number 6,407,677, issued to Avenel. A rejection under 35 U.S.C. § 103(a) must be supported by a *prima facie* case of obviousness. MPEP § 2142. "The

examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness." MPEP § 2142, pg. 2100-121.

The first element in establishing a *prima facie* case of obviousness is that "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings." MPEP § 2143. The second element is that there must be a reasonable expectation of success. *Id.* The third element is that "the prior art reference (or references when combined) must teach or suggest all the claim limitations." *Id.* "There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper); *see* MPEP § 2143.01.

In his rejection, the Examiner states:

> 3. Claims 4-13, 16-23 and 28-30 are rejected under 35 U .S.C .103(a) as being unpatentable over Stewart et al (6392547) in view of Avenel et al. (6407677). Regarding Claims 4-13, 16-23 and 28-30, Stewart et al show a proximity monitoring system capable of accurate boundary detection independent of orientation comprising: a transmitter 21 including an antenna array 32, 33 that continuously generates a magnetic field based on the transmitted electrical signal and having an intensity within the area 23 and defining a boundary 24, a receiver module 25 including an antenna array 53-55 responsive to the magnetic field, in any direction, and connected to a single channel receiver 56 and a measurement circuit for determining a total power of the magnetic field incident at the antenna array.
>
> Stewart et al do not teach three coils perpendicular to each other in the transmit circuit, but rather shows only two, 32 and 33. Thus, Avenel et al are cited as resolving the level of ordinary skill in the antenna art and teach the use of three perpendicular coils 1, 2, and 3 having and disposed along respective axes. Avenel et al teach that the emitter (i.e., transmitter) may employ these three loop coils. Thus, it would have been obvious to the skilled artisan to employ such and [sic] antenna arrangement in lieu of the two axes/loop coils 32, 33 of Stewart et al in order to provide an omnidirectional antenna radiation pattern.

Paper No. 17, pp. 2-3 (the underlined text is text that appears verbatim in Paper Number 13, the Final Office Action mailed July 28, 2003).

Avenel discloses "a device for low-frequency communication by magnetic coupling between emission by magnetic field and a reception antenna." Avenel, Col. 1, lines 5-7. Avenel further discloses that "one of either the emitter or the receiver being furnished with a loop antenna, characterized in that the other of either the emitter or the receiver is constituted by the association of three coils wound around three substantially perpendicular axes defining a trihedral so as to obtain an omnidirectional magnetic field by supplying said coils with currents of like frequency." *Id.* at Col. 1, lines 38-44. The omnidirectional emission magnetic field is generated by applying "currents of like frequency [that] are 120° or 60° out of phase." *Id.* at Col. 2, lines 39-41. Avenel does not disclose a receiving antenna with two coils. Neither does Avenel disclose any form of modulation to be applied to each coil.

The Examiner bases the rejections of Claims 4-13, 16-23 and 28-30 on Avenel, which the Examiner cites as teaching that the "emitter (i.e., transmitter) may employ these three loop coils." The Examiner then makes a conclusory assertion that "it would have been obvious to the skilled artisan to employ such and [sic] antenna arrangement in lieu of the two axes/loop coils 32, 33 of Stewart et al in order to provide an omnidirectional antenna radiation pattern."

Claims 28, 30, and 16-23

The MPEP states that "the finality of a rejection may be withdrawn in order to apply a new ground of rejection." MPEP 706.07(e), pg. 700-76, 8th ed., Rev. 1. However, the MPEP further states that "this practice is to be limited to situations where a new reference either fully meets at least one claim or meets it except for differences which are shown to be completely obvious." *Id.* Further, the MPEP states that a "plurality of claims should never be grouped together in a common rejection, unless that rejection is equally applicable to all claims in the group." MPEP 707.07(d), pg. 700-113.

The Examiner states that "Avenel et al teach the use of three perpendicular coils." However, Claims 28 and 30 do not include any limitation identifying the number of coils in the at least one antenna array. Accordingly, Avenel is not an

appropriate reference against those claims. Furthermore, contrary to MPEP 707.07(d),the Examiner has rejected all claims on the basis of Avenel when Avenel is not applicable to all claims.

Applicants respectfully submit that independent Claims 28 and 30 are not obvious over Stewart in view of Avenel because Claims 28 and 30 do not include any limitation identifying the number of coils in the at least one antenna array. Because the Examiner has stated that all past rejections have been overcome by Applicants and because the only new grounds of rejection presented by the Examiner is Avenel, which is not relevant to any limitation in Claims 28 and 30, Applicants respectfully request that the Examiner withdraw his rejections to Claims 28 and 30, and to Claims 16-23, which depend from Claim 30.

Claims 29 and 4-13

With respect to the remaining independent claim, Claim 29, the Applicants respectfully submit that the Examiner has not met his burden of showing a *prima facie* case of obviousness. The first requirement of a *prima facie* case of obviousness is that "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings." MPEP § 2143. In his rejection, the Examiner states that Avenel resolves "the level of ordinary skill in the antenna art and teach the use of three perpendicular coils." However, the Examiner provides nothing beyond his conclusory assertion as to why one of ordinary skill in the art of proximity monitoring systems would be motivated to modify the device of Stewart based on a particular antenna configuration disclosed for use in vehicle identification systems. *See* Avenel, Col. 1, lines 8-28.

Further, filed with the Response to the Final Office Action, Paper Number 13, was a 37 C.F.R. § 1.132 Declaration of James Rochelle, an expert in the field of proximity monitoring and wireless containment systems. The facts set forth in that declaration establish the following:

1. Stewart does not teach, disclose, or hint at the use of three transmitting antennas.

2 Stewart teaches a rotating magnetic field, which is not the same as an ordinary magnetic field having no circular rotation.

3. Three transmitting antennas have characteristics not discussed in Stewart, such as characteristics relating to three-dimensional radiation patterns.

Accordingly, modifying the transmitter of Stewart to connect three antennas was not obvious to one skilled in the art at the time of filing of the Application. The Examiner asserts that Avenel establishes the level of skill, but the Examiner has not shown any suggestion or motivation to modify the device of Stewart, either in Stewart or Avenel. Further, the Examiner states that "it would have been obvious to the skilled artisan to employ such and [sic] antenna arrangement" without regard to the requirement that obviousness is based on one of "ordinary skill" in the art.

Applicants respectfully submit that Claim 29 is not unpatentable over Stewart in view of Avenel because, first, there is no suggestion or motivation to modify the device of Stewart as suggested by the Examiner, which is the first requirement of a *prima facie* case of obviousness, and second, Applicants have submitted evidence refuting the Examiner's claims of obviousness and the Examiner has not presented any contradicting evidence. Accordingly, Applicants respectfully request that the Examiner withdraw his rejection to Claim 29. Applicants also respectfully request that the rejections to dependent Claims 4-13 be withdrawn for depending from an allowable base claim.

Claims 4-13, 16-23, and 28-30

In his rejection of Claims 4-13, 16-23, and 28-30, the Examiner further states:

> Also, Stewart et al do not specifically call the processor 61 a "measurement circuit", but in column 5, lines 30-53 suggest to the skilled artisan that the processor performs a number of different functions. It would have been obvious to the skilled artisan that the processor must determine the total power or signal strength at the antennas 53-5. The three antennas are oriented in three distinct and different axes; and thus the total power is connected to a common node connected to the detector 56 connected to the demodulator 60 and connected to the processor 61. Stewart et al discuss the intensity threshold indicative that the receiver tag 25 is proximate the base station 21 within the perimeter 24. One skilled in the art recognizes as obvious that there is a measurement circuit implied in the circuitry since there is a preset threshold power level employed in the system. A skilled artisan would find it obvious that

> the threshold power level is achieved by measurement of the total power incident at the antenna array. The acknowledgement detection function (col. 5, lines 51-54) cannot be performed without the total power incident on the antenna array being measured.
>
> In a typical voting antenna system, power or signal strength at each antenna is measured and selected. Total power of the antennas is measured relative to other antenna elements and thus the proper antenna is employed in the respective plane. Regarding Claims 4-6,12-14,it would have been obvious to the skilled artisan to employ three transmitting antennas and/or two receiver antennas, and notice of such use is hereby taken. As to Claims 7 and 28,the line frequency multiple defining the carrier frequency is an obvious method used in transmitters. As to Claims 8,15-23,the oscillator and PLL and amplifiers, etc., are all obvious transmitter components in the Stewart et al system, and would therefore be obvious to employ therein, by the skilled artisan. As to Claims 9-11,the particular modulation technique is also obvious to the skilled artisan.

Paper No. 17, pp. 2-4 (the underlined text is text that appears verbatim in Paper Number 13, the Final Office Action mailed July 28, 2003).

The Examiner has stated, in Paragraph 1 of Paper Number 17, that the "declaration under 37 CFR 1.132 filed 29 September 2003 is sufficient to overcome the rejection of claims 1-28 based upon Stewart et al. The arguments in the remarks is persuasive and, therefore, the finality of the previous Office action is withdrawn." The reasons for rejection given in the current rejection are almost exactly the same as the rejections previously made by the Examiner and overcome by the Examiner. Further, the Examiner has not provided any additional reference that supports his rejections, but relies entirely upon Stewart. Applicants incorporate by reference the 37 C.F.R. § 1.132 Declaration of James Rochelle, filed with the Response to the Final Office Action, Paper Number 13, along with the arguments included in that Response.

Applicants also note that the Examiner specifically rejects Claim 15, which was cancelled in the Response to the Final Office Action and is not currently pending.

Accordingly, because the Examiner has stated that all previous rejections were overcome and because no new rejections were presented in the two paragraphs above, Applicants respectfully request that the Examiner withdraw his rejections for Claims 4-13, 16-23, and 28-30.

Finally, Applicants reiterate their argument that the Examiner has made conclusory assertions and taken official notice of obviousness without providing support or explanation. Also, Applicants respectfully point out that the test for obviousness applies to "one of ordinary skill in the art," and not a "skilled artisan." In the current Office Action, Paper Number 17, the Examiner asserts:

> Thus, it would have been obvious to the skilled artisan to employ such and [sic] antenna arrangement in lieu of the two axes/loop coils 32, 33 of Stewart et al in order to provide an omnidirectional antenna radiation pattern.

Application No. 09/779/076, Paper 17, page 3 (emphasis added). In the same Office Action, the Examiner repeats the assertions made in the previous Office Action, Paper Number 13:

> Regarding Claims 4-6, 12-14, it would have been obvious to the skilled artisan to employ three transmitting antennas and/or two receiver antennas, and notice of such use is hereby taken. As to Claims 7 and 28, the line frequency multiple defining the carrier frequency is an obvious method used in transmitters. As to Claims 8, 15-23, the oscillator and PLL and amplifiers, etc., are all obvious transmitter components in the Stewart et al system, and would therefore be obvious to employ therein, by the skilled artisan. As to Claims 9-11, the particular modulation technique is also obvious to the skilled artisan.

Application No. 09/779/076, Paper 17, page 4 (emphasis added). Section 2144.03 of the Manual of Patent Examining Procedure states:

> The rationale supporting an obviousness rejection may be based on common knowledge in the art or "well-known" prior art. The examiner may take official notice of facts outside the records which are capable of instant and unquestionable demonstration as being "well-known" in the art.

MPEP § 2144.03 (emphasis added). Applicants again request the Examiner provide evidence to support his assertion of obviousness as it is respectfully submitted that the cited references do not support such a conclusion. *See* MPEP 2144.03, pg. 2100-129, 8th ed.

Examiner's Response to Arguments

The Examiner states:

> 4. Applicant's arguments with respect to claims of record have been considered but are moot in view of the new ground(s)of rejection. However, comments to the measurement circuit for measuring total magnetic field power appears proper. The Stewart et al. system appears to provide such a circuit because the current produced by each coil is employed in the system. Its total power, collectively, must be measured in terms of voltage at each coil and processed by the processor. Collectively, the total power is employed in the processing aspect of the system. The claims do not point out that the measurement circuit in the receiver corresponds to that in, and corresponds to the transmit circuit/antenna arrangement as set forth on page 35, lines 1-13 of the specification.

Paper 17, page 4.

Applicants point out that Stewart does not use, let alone define, the phrase "total power." Further, the Examiner is reminded that Applicants may be their own lexicographer. *See* MPEP § 2111.10, 8th ed, Rev. 1, pp. 2100-48 to 49. The phrase "total power" must be interpreted in view of the Specification, in which the Applicants have expended great efforts in describing the measurement circuit and how total power is determined. However, because the Examiner has not identified any new grounds for rejecting any claim based on his interpretation of total power, Applicants can only respond to the Examiner's comments by referring the Examiner to the Applicants' Specification.

Conclusion

In view of the Examiner's statement that all previous grounds for rejections have been overcome and the arguments stated above, it is believed that the above-identified patent application is in a condition for the issuance of a Notice of Allowance. Such action by the Examiner is respectfully requested. If, however, the Examiner is of the opinion that any of the drawings or other portions of the application are still not allowable, it will be appreciated if the Examiner will telephone the undersigned to expedite the prosecution of the application.

Please charge any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 16-1910 (26053.00).

Respectfully submitted,

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